

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated June 16, 2005 has been received and its contents carefully reviewed. Applicant appreciates the Examiner's withdrawal of the Restriction Requirement mailed March 25, 2005.

Claims 2, 5 and 12 are hereby amended. Claims 1-12 are pending. Reexamination and reconsideration of the pending claims are respectfully requested.

In the Office Action, claims 2, 5 and 12 are objected to because of informalities. Accordingly, claims 2 and 5 are hereby amended to correct the minor informalities. Also, claim 12 is hereby amended to depend from claim 11. Accordingly, applicant requests withdrawal of the claim objections.

In addition, in the Office Action, claims 1-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,534,716 to Takemura in view of Applicant admitted related art (hereinafter "ARA"). The rejection is respectfully traversed and reconsideration is requested.

Claim 1 is allowable over Takemura in view of ARA in that claim 1 recites a combination of elements including, for example, "crystallizing the amorphous silicon layer into a polysilicon layer using a sequential lateral solidification (SLS) method; patterning the polysilicon layer to form a polysilicon active layer; performing a rapid thermal annealing (RTA) process to the polysilicon active layer under a H₂ atmosphere." Takemura in view of ARA does not teach or suggest at least these features of the claimed invention. The Examiner states, at page 3 of the Office Action, that "Takemura teaches performing a rapid thermal annealing (RTA) process to the active layer in an atmosphere comprising hydrogen." However, the method of present claim 1 is different from the modified method of Takemura in that present claim 1 recites that the "rapid thermal annealing (RTA) process" is performed "under a H₂ atmosphere." In contrast, Takemura teaches that HCl may be added to a nitrogen atmosphere but does not teach a H₂ atmosphere. See column 8, lines 44-46 and lines 57-61. Therefore, Takemura does not teach "performing a rapid thermal annealing (RTA) process to the polysilicon active layer

under a H₂ atmosphere.” In addition, the method of present claim 1 is different from the modified method of Takemura in that present claim 1 recites that the “amorphous silicon layer” is crystallized “into a polysilicon layer using a sequential lateral solidification (SLS) method.” In contrast, Takemura teaches a metal induced crystallization method. See column 2, lines 36-46. Therefore, Takemura does not teach “crystallizing the amorphous silicon layer into a polysilicon layer using a sequential lateral solidification (SLS) method.” ARA does not cure this deficiency of Takemura.

Furthermore, Applicant respectfully submits that there is no motivation for one of ordinary skill in the art to combine Takemura and ARA and arrive at the claimed invention with any reasonable expectation of success. ARA is drawn to a discussion of a sequential lateral solidification (SLS) method while Takemura teaches a metal induced crystallization method. Therefore, Applicant respectfully submits that ARA and Takemura are non-analogous art for purposes of analyzing the obviousness of the subject matter at issue. Applicant further respectfully submits that the motivation to combine the references comes from the present invention, and not from Takemura or ARA, which is impermissible. Accordingly, Applicant respectfully submits that claim 1 is allowable over Takemura in view of ARA.

Similarly, Claim 2 is allowable over Takemura in view of ARA in that claim 2 recites a combination of elements including, for example, “crystallizing the amorphous silicon layer into a polysilicon layer using a sequential lateral solidification (SLS) method; patterning the polysilicon layer to form a polysilicon active layer; performing a rapid thermal annealing (RTA) process to the polysilicon active layer under a H₂ atmosphere.” Takemura in view of ARA does not teach or suggest at least these features of the claimed invention. The Examiner states, at page 3 of the Office Action, that “Takemura teaches performing a rapid thermal annealing (RTA) process to the active layer in an atmosphere comprising hydrogen.” However, the method of present claim 2 is different from the modified method of Takemura in that present claim 2 recites that the “rapid thermal annealing (RTA) process” is performed “under a H₂ atmosphere.” In contrast, Takemura teaches that HCl may be added to a nitrogen atmosphere but does not teach a H₂ atmosphere. See column 8, lines 44-46 and lines 57-61. Therefore, Takemura does not teach “performing a rapid thermal annealing (RTA) process to the polysilicon active layer under a H₂ atmosphere.” In addition, the method of present claim 2 is different from the

modified method of Takemura in that present claim 2 recites that the “amorphous silicon layer” is crystallized “into a polysilicon layer using a sequential lateral solidification (SLS) method.” In contrast, Takemura teaches a metal induced crystallization method. See column 2, lines 36-46. Therefore, Takemura does not teach “crystallizing the amorphous silicon layer into a polysilicon layer using a sequential lateral solidification (SLS) method.” ARA does not cure this deficiency of Takemura.

Furthermore, Applicant respectfully submits that there is no motivation for one of ordinary skill in the art to combine Takemura and ARA and arrive at the claimed invention with any reasonable expectation of success. ARA is drawn to a discussion of a sequential lateral solidification (SLS) method while Takemura teaches a metal induced crystallization method. Therefore, Applicant respectfully submits that ARA and Takemura are non-analogous art for purposes of analyzing the obviousness of the subject matter at issue. Applicant further respectfully submits that the motivation to combine the references comes from the present invention, and not from Takemura or ARA, which is impermissible. Accordingly, Applicant respectfully submits that claim 2, and claims 3-12, which depend therefrom, are allowable over Takemura in view of ARA.

Applicants believe the foregoing amendments place the application in condition for allowance and early, favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

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Reply to Office Action dated June 16, 2005

Docket No.: 8734.247.00

The undersigned hereby signs this filing under the authority provided by 37 C.F.R. §1.34 pending the filing of a Power of Attorney and Statement under 3.73(b) executed by Assignee.

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Respectfully submitted,

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